PROCEEDINGS OF LEARNED SOCIETIES.

ZOOLOGICAL SOCIETY.

Oct. 26, 1841.—William Yarrell, Esq., Vice-President, in the Chair.

The following communication, entitled, "Description of the Stomach of the *Colobus Ursinus*, Ogilby," by R. Owen, Esq., was read.

"The body of the Ursine Colobus, which there can be little doubt is the Full-bottom Monkey of Pennant (*Colobus polycomos*, Illig.), lately exhibited in the Society's menagerie, having been transmitted to me for examination by Mr. Waterhouse, with a view more particularly to the determination of the form of the stomach, I have much pleasure in communicating to the Society the result of this examination.

"It may render the interest in the dissection of this Monkey more intelligible to some, if I premise, that the genus to which it belongs is one of recent discovery or establishment, the affinities of which to the Doucs (*Semnopithecus*), though strongly illustrated by the general form of the *Colobi*, and more especially by their skull and dental organs, required a knowledge of the anatomy of their digestive system for its full appreciation.

"The *Colobi*, peculiar among all known old world *Simiadæ* by the rudimental development of the thumbs of the fore-hands, were generically separated on that account by Illiger. Cuvier, at the period of publishing the last edition of the 'Règne Animal,' had not enjoyed the opportunity of determining how far the distinctive character, seized upon by the Berlin naturalist, was real and constant. Temminck, however, had assured Cuvier that the *Colobus* of Illiger possessed the skull and dentition of the *Semnopitheci*. Mr. Ogilby has mainly contributed to establish the Illigerian genus and illustrate its extent by the description of several species founded upon skins transmitted to the Zoological Society; and our excellent establishment has now fulfilled another of its functions, by affording to the anatomist the means of establishing the natural affinities and position of the genus *Colobus*, as it has heretofore done in regard to the *Semnopithecus*.

"The stomach of the *Colobus Ursinus* presents the same complicated saccular structure as in the *Semnopitheci*: if it was somewhat smaller in the present instance, in proportion to the body, this might arise from the immaturity of the individual examined. The sacculation is produced by the same modification of the muscular fibres of the stomach, combined with a great extent of the digestive tunics. A narrow band of longitudinal fibres traverses the lesser curvature of the stomach, and a second band, commencing at the left or blind extremity of the cavity, puckers it up in a succession of sub-globular sacs along the greater end. I deem it unnecessary to pursue the description more minutely in this case, as it would be merely the repetition of that which has already been published in our Transactions in reference to the *Semnopithecus Entellus*[*]. The form and size of the cæcum, and the length and disposition of the intestinal canal in the *Colobus* equally corresponded with those parts of the anatomy of the closely allied genus *Semnopithecus*."

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[*] Vol. i. p. 65. pl. 8.

Mr. Waterhouse observed, that the animal dissected by Prof. Owen had been presented to the Society by the Earl of Derby, and had lived for some time in the Menagerie. Soon after its death he had carefully examined it with a view to ascertain whether it possessed cheek-pouches. Of these he found not the slightest trace.

Mr. Lovell Reeve then read his "Description of a new species of *Corbis*, a genus of acephalous mollusks of the family *Nymphacea*."

Corbis Soverbii. *Corb. testâ transversâ, tumidâ, gibbosâ, lacteâ aut rubellâ; radiis roseis obsoletis ab umbonibus ad marginem divergentibus; lamellis transversis elevatis, remotiusculis, utrinque serratis, anticè valdiùs; striis numerosis radiantibus, intra lamellas; margine subcrasso, profundè crenulato; umbonibus longitudinalibus, minutis, oppositè incurvis; lunulâ parvâ, subcordatâ.*

Long. 2$\frac{5}{8}$; lat. 3$\frac{1}{8}$ poll. Mus. Stainforth, Norris.

Junior, testâ depressiusculâ, radiis roseis longitudinalibus plus minusve distinctis.

Long. 1$\frac{2}{8}$; lat. 1$\frac{7}{8}$ poll. Mus. Stainforth.

Hab. ad insulam Negros, Philippinarum.

Found in loose coral sand on the reefs at low water.

"I have much pleasure in dedicating this beautiful species of *Corbis*, figures of which will appear in the third part of my 'Conchologia Systematica' (pl. lviii.), to that industrious author and artist Mr. G. B. Sowerby, jun. Only one recent species of this characteristic genus of *Nymphacea* has been hitherto known; it is therefore gratifying to be able to make so valuable an addition. The *Corbis Soverbii* differs materially from the *Corbis fimbriata*: instead of the closely fimbriated character of the outer surface, the valves are crossed transversely with distinct elevated lamellar ridges, between which there are numerous striæ running in a longitudinal direction. It is also characterized by being strongly tinged with pink, particularly in an early stage of growth, when the valves are vividly painted with deep-coloured rays passing from the umbones to the margin: as the shell increases in age it increases in convexity, the lamellæ become thickened, and the rays obsolete. This interesting species more nearly resembles the *Corbis lamellosa* of Lamarck, known only in a fossil state; it differs, however, in having the valves much more gibbous or ventricose, and in the lamellæ being strongly serrated on the anterior side. Some little time since I was fortunate enough to obtain, at a public auction at Rotterdam, four specimens of the *C. Soverbii*, two in the young and two in the adult state. At this sale I obtained the beautiful new species of the glassy Nautilus described in the 'Annals of Nat. Hist.' vol. ix. p. 140.

"Mr. Cuming has kindly furnished me with the above locality, having met with a few specimens of the *Corbis Soverbii* in his researches amongst the Philippines, at the island of Negros."

The next paper read was from Mr. Stutchbury, and is entitled, "Description of a new Sponge from Barbadoes."

"The Museum of the Bristol Institution having lately become possessed of a very interesting sponge through the liberality of Dr. Cutting, of Barbadoes, to whom we are also indebted for the 'recent' *Pentacrinus*, 'recent' *Pholadomya*, and numerous other valuable donations; and as this tribe has met with the able attention of microscopists, whose researches appear to have excited considerable interest;—I have thought a brief account of the specimen would be acceptable to naturalists."

"The peculiarities of this very beautiful sponge consist in the following distinctive characters; the most remarkable of which is, its being formed entirely of silex, the reticulate structure of the mass being composed of transparent vitreous tubuli, without any admixture of keratose or calcareous matter; the silex forming the mass itself, and not, as in other instances, arranged as spicula in the horny membranes; consequently, it is perfectly rigid and sonorous when struck.

"When viewed by a simple lens it exhibits a frothy glass-like appearance: under a magnifying power of seventy-five linear, the net-like meshes are seen to be composed of beautiful glassy tubes, anastomosing one with the other in every direction, the external surface of the cylinders having a rugged aspect; the newer or last formed portions appear to emanate from centres, and at certain distances from spherical masses, from which straight tubes again arise, thus forming the reticulate structure.

"Amidst the interstices of the sponge are found numerous small bodies loose and unattached (also composed of silex*), characterized by Ehrenberg under the generic appellation of *Xanthidium*, of which several species in a fossil state are described as occurring in flints and other siliceous minerals; this minute body may be described as a spherical mass of tubuli, arising from a centre, each tubular spine being terminated by an expanded conical aperture, and a strong resemblance is at once observed between these bodies and the mode of extension in the newer portions of the sponge itself; this fact, together with that of the perfect siliceous character of these minute bodies, induces me to come to the conclusion that they are not distinct, free animals, parasites to the sponge, but the *gemmules* of the sponge, in which they are found †; and I think their increase, so as to become perfect sponges when ejected from the parent mass, can be readily understood by comparing their present form with the recently formed portions of the sponge. Supposing the *gemmule* (?) to have arrived at that state which commences its individual life, its increase would not be by an extension of the tubuli in a straight line; but from the edges of the terminal aperture of each spine other and similar tubuli would or might be sent off, and thus the end of every spine become a fresh centre and anastomosing point, and in this way a very slight addition would give the newly formed mass the reticulate and vesicular character of the parent sponge.

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* In testing the mineral character of the sponge a small portion was examined under the microscope; then placed in a test tube, and upon the addition of dilute hydrochloric acid no effervescence occurred: it was then dried, and again placed in the field of the microscope, when no change appeared to have taken place; upon submitting it to the action of the blowpipe, the only alteration was its losing its glassy aspect by becoming opake, but it was not altered in form.

[† Mr. Stutchbury seems to be perfectly unaware of the fact that species of *Xanthidium* have been observed in a living state; the genus, we believe, was founded by Ehrenberg previous to his knowledge of the existence of similar forms fossil in the flint. Nor is this the first time that they have been mistaken for eggs,—not of sponges, it is true, but of a polype. See Turpin's paper on *Cristatella mucedo*, Ann. Sci. Nat. vol. vii. p. 141. Ehrenberg pointed out the error committed by Turpin.

The bodies here mentioned may be the gemmules of the sponge, but if so, they are no *Xanthidium*, but merely bear resemblance to this genus of Infusoria.—W. F.]

"Being anxious to identify the peculiar and entire siliceous character of this sponge with its generic appellation, I have adopted the name of *Dactylocalyx*; the principal characters of which may be thus expressed:—

"Sponge fixed, rigid, siliceous; incurrent canals, uniform in size; excurrent canals large, forming deep sinuosities on the outer surface, radiating from the root to the outer circumference.

"For the species the name *Dactylocalyx pumiceus* is proposed."

November 9.—William Horton Lloyd, Esq., in the Chair.

Mr. Gould exhibited and pointed out the characters of a new species of Goose nearly allied to *Nettapus Coromandelianus* (*Anas Coromandeliana*, Auct.), from N. Australia, which he characterized as

NETTAPUS PULCHELLUS. *Nett. collo, dorso, alisque intensè resplendenti-viridibus; lateribus, fasciis latis lineisque alternatìm albis et viridescenti-nigris, conspicuè ornatis; remigibus secondariis cum pogoniis externis albis, undè fascia obliqua alam transcurrens.*

Male: head brownish green, indistinctly barred with light brown; beneath the eye an oval spot of white; neck, back and wings deep glossy green; primaries black; outer webs of the secondaries snow-white; feathers of the chest and back of the neck white, with a number of greenish black circles, one within the other, so numerous that the white is nearly lost; the flanks similarly marked, but in them the bars and circles are broader and more apparent; tail black, glossed with green; abdomen white; under tail-feathers black; irides dark brown; bill dark greenish grey, with a yellowish white nail; under mandible greenish grey, irregularly blotched with a lighter colour; legs and feet blackish brown.

Total length, 12½ inches; bill, 1⅛; wing, 6½; tail, 3; tarsi, 1.

The female resembles the male, but differs in having the crown, occiput, and a stripe down the back of the neck deep brown; in being destitute of the white spot beneath the eye; in having the chin and upper part of the throat white, mottled with small markings of brown; bill French grey, becoming yellowish at the base; lower mandible bluish grey; tarsi fleshy white on the sides; back and front blackish brown; feet dark brown.

Mr. Waterhouse called the attention of the members to a new species of Rodent from Chile, which had been placed in his hands for description by H. Cuming, Esq. This animal, Mr. Waterhouse stated, evidently belonged to a little family of the *Rodentia* (the *Oc-*

todontidæ), which is peculiar to the southern parts of South America, a family of which six species are characterized, and these constitute the four genera, *Ctenomys, Poephagomys, Octodon*, and *Abrocoma.*

The present Rodent agrees with the two first of these genera in having the fore-feet strong and furnished with large claws formed for burrowing, and approaches most nearly, as regards its external characters, to the genus *Poephagomys* of F. Cuvier, (which appears to be the *Psammoryctes* of Poeppig,) inasmuch as its ears are of moderate size, whilst those of the species of *Ctenomys* are very small.

The skull presents a very large antorbital opening, enclosed externally by the zygomatic process of the superior maxillary bone, the root of which is thrown out almost horizontally, and is on the same plane as the anterior palatal portion of the cranium: a second, very small opening, for the transmission of the infra-orbital nerve, is pierced through the root of the zygomatic process*; the zygoma is deep and compressed; the portion of the palate situated between the molar teeth is contracted in front, and widest between the posterior molars; and the posterior portion of the palate presents a deep V-formed emargination. The descending ramus of the lower jaw, or that part which lies below and behind the alveolar portion, is thrown out from the outer side of the alveolus of the great inferior incisor, which extends almost to the condyle; its posterior portion is emarginated, and lower and hinder portion is produced in the form of an acute angle, terminating behind the vertical line, dropped from the condyle; the lower boundary of the descending ramus is produced externally and internally in such a manner, as when viewed from beneath, this part presents a horizontal platform of small extent, and which is broadest at about one-sixth of an inch from the angle of the jaw, the platform at this part being produced internally so as to form an obtuse angle. The condyloid portion of the lower jaw has a considerable antero-posterior extent, and the articular surface, which is rather broad, occupies rather more than half of this compressed condyloid process. The coronoid process is in the form of an isosceles triangle, the apex of which is of the same height as the condyle, or very nearly so.

The molar teeth are rootless and four in number on each side of each jaw.

These characters of skull and dentition all indicate the affinities of the animal under consideration with the *Octodontidæ*: the cranium compared with that of the known species of the family presents the modifications observable in the burrowing types, differing from the Octodons and Abrocomas, which live more on the surface of the ground and ascend trees and bushes, in the smaller size of the cranial cavity, and in the greater strength of all the parts, arising from the comparatively large size of the teeth, and more especially of the incisors, which are fitted for cutting roots*. The auditory bullæ are of moderate size, but rather smaller than in *Octodon*; the lower jaw is larger and much stronger than in the two genera mentioned. In these characters the present animal makes so near an approach to *Ctenomys*, that it might with propriety be placed in that genus were it not that in the structure of the teeth there exists a difference fully as great as that which gave rise to the generic distinction of the little groups of which the family *Octodontidæ* is composed. In *Octodon, Poephagomys* and *Ctenomys*, the enamel of the molar teeth enters, in the form of a fold on each side, into the body of the tooth, but the folds from opposite sides do not meet. In the Rodent which forms the subject of these observations, the crown of each molar is divided into two parts by the meeting of the folds of enamel of the outer and inner side, and the surface of these teeth may be compared to a series of cylinders (two to each tooth), which are much compressed in the antero-posterior direction. The three foremost molars in each jaw are equal in size, and the posterior molar is smaller than the rest. In position, the last molar of the upper jaw differs from the others, being as it were twisted, so that the two transverse lobes are placed obliquely.

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* This second small opening is found in the skull of *Octodon*, and appears to be represented in the figure (given by Mr. Bennett) in *Ctenomys*, though not so well expressed by the engraver as by the artist of the drawing from which the engraving was made. In *Abrocoma* there is no corresponding opening.

With our present very limited knowledge of the small Rodents of the southern parts of South America, and especially of the western coast, it is impossible to judge of the value of such a modification of the molar teeth as is here pointed out. It is possible that the species of *Octodontidæ* may vary more or less among themselves in the structure of these teeth, in which case the so-called genera, established as the species are discovered, will require a revision, as do very many of the genera of *Rodentia*; in the mean time, however, it is necessary that sectional names should be imposed on such species as will not agree tolerably well with the definitions of the genera published as such. Agreeably to these views, the subgeneric title *Schizodon*† is proposed for the present new Rodent. The principal external characters may be thus expressed:—

SCHIZODON FUSCUS. *Schiz. suprà griseo-fuscus, subtùs obscure flavo tinctus: pedibus pilis obscurè fuscis tectis; auribus mediocribus; caudâ, fuscâ quoad longitudinem caput ferè æquante, pilis brevissims tectâ.*

	unc.	lin.
Longitudo ab apice rostri usque ad caudæ basin	9	0
——————— *caudæ*..........................	1	8
——————— *tarsi digitorumque*.................	1	5¾
——————— *auris*..........................	0	5½

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* The burrowing *Sciuridæ* and *Muridæ*, as compared with the typical examples of their respective groups, present a corresponding modification of the skull; the strength of the cranium is greater, and the cranial cavity smaller. It is difficult to estimate the amount of intelligence in these animals, but, judging from the size of the brain, it would appear that there existed an intimate connexion between the food of the animal and its intelligence; the food in one case leading the animal to habits which cause it to be exposed to numerous dangers which do not occur in the other.

† From σχίζω, *divido*, et ὀδοὺς, *dens*.

In size and colouring the Schizodon greatly resembles the Common Rat (*Mus decumanus*); its fur is rather softer than in that animal. Both on the upper and under parts of the body the hairs are of a deep slate-grey colour next the skin; those on the belly are of a dirty yellow colour. On the back, the hairs are most of them brownish, or yellowish brown near the point, and black at the point. The ears are covered both externally and internally with fine short hairs. The hind-feet have five toes; the fore-feet also have five toes, but the inner one is very small and has a very short nail; the other toes have long, compressed and powerful nails. The hairs of the moustaches are of a dusky colour.

The discovery of the Rodent above described is due to Mr. T. Bridges, whose notes relating to it are as follows:—"This species of Rodent is very common on the eastern side of the Andes, where it completely undermines the face of the country, especially in dry places, making it very disagreeable for the rider, as the horses are continually plunging into the burrows. It must lay up a winter store, or otherwise migrate, or remain buried in the snow at least three months during the winter season. The specimen is a female."

November 23.—John Willimott, Esq., in the Chair.

Mr. Lovell Reeve exhibited a beautiful new species of *Mitra*, a genus of pectinibranchiate mollusks, of the family *Columellata*, which he characterized as follows:—

MITRA STAINFORTHII. *Mitr. testâ cylindraceo-fusiformi, exalbidâ; apice basique cinereo-cærulescentibus; spirâ acuminatâ; anfractibus transversìm leviter striatis, longitudinaliter costatis; costis latiusculis, subdistantibus, maculis rufis quadratis vividè pictis; aperturâ angustâ; columellâ triplicatâ; umbilico parvulo; labro externo simplici, fauce ad marginem rubidè maculatâ.*

Long. 2¼; lat. ½, poll. Mus. Stainforth.

Hab. ad insulam Burias, Philippinarum. Cuming.

Found in coarse coral sand, 7 fathoms.

"It is with peculiar gratification that I am allowed to introduce into the nomenclature of the Mollusca, the name of my esteemed friend, the Rev. Mr. Stainforth; a zealous conchologist, and one who, perhaps, stands unrivalled in his beautiful collection of Mitres. The *Mitra Stainforthii* is somewhat allied to the *Mitra sanguisuga* of Lamarck: the whorls are longitudinally ribbed as in that species; but in this, they are wider and more distant from each other; they are also eminently distinguished by a series of square red spots running from the top to the bottom. The magnificent specimen which has furnished the above description is two inches and a quarter in length; a few small specimens have been recently found by Mr. Cuming at the island of Burias, one of the Philippines."

A collection of bird-skins and mammals from Chile was exhibited. The specimens were collected by Thomas Bridges, Esq., in the Andes of Chile, lat. 34°–35°. With this collection Mr. Bridges sent the following notes, which were communicated to the Meeting by H. Cuming, Esq.:—

Canis Azaræ, Pr. Max. Found in valleys on the eastern side of the

Andes. This species of Fox appears to differ from the large Fox of Chile, known by the name of "Culpeo," in the bluntness of its ears.

Schizodon fuscus, Waterh. Proc. Zool. Soc. for November 9, 1841.

Mus, ———? This little animal is found about hedges in the province of Colehagua, and is by no means common. There are in Chile at least ten or twelve species of Rats and Mice.

Sturnella loica, Auct. Common in all parts of Chile. Iris brown.

Agelaius Chopi, Vieill. "Tordo" of the natives. Iris dark brown. Common in flocks in all parts of the country.

Chlorospiza xanthogramma, G. R. Gray. Found in valleys near the summit of the Andes on the east and west sides. Iris brown.

Emberiza luctuosa, Gerv. Found in valleys of the Andes. Sings delightfully in summer. Iris dark brown.

Fringilla Gayi, Eyd. and Gerv. Found near the summit of the Andes in valleys amongst bushes. Iris reddish brown.

Muscisaxicola rufivertex, D'Orb. Found on the east and west sides of the Andes near the snow. Iris dark brown.

Agriornis leucurus, Gould. This bird is found in the valleys near the summit of the Andes on the east and west sides. It is called "Mero" by the natives, but differs from the "Zorral Mero" of the warmer parts of the country. Iris brown.

Pteroptochos Tarnii, G. R. Gray. This singular bird is found in the woody parts of the Andes, and is very difficult to shoot; its cry is compared to the neighing of a young colt. Iris dark brown.

Caprimulgus bifasciatus, Gould. Amongst low bushes on the eastern side of the Andes. It is known to the natives by the names of "Plasta" and "Gallina Ciega," *i. e.* Blind Hen. Iris brown.

Upucerthia dumetoria, Isid. Geoff. and D'Orb. Found amongst low bushes and in sandy places in the elevated valleys of the eastern side of the Andes. Iris brown.

Scytalopus fuscus, Gould. Found in hedges in various parts of Chile, also in the Andes. It is called by the natives "Chircan Negro," as the other species common in Chile is light brown. Iris brown.

Geositta canicularia, G. R. Gray. This little bird is found on the plains near the Andes, and is called by the natives "El Caminante," or Traveller, from its running before the traveller on the dry sandy roads of the country. Iris brown.

Alcedo torquata, Auct. Found near the rivers of Chile. Iris brown. Called by the natives "Martin Pescador."

Picus Magellanicus, Vig. Iris brown. This beautiful species of Woodpecker is found in the forests of "Roble" in the Andes, and may always be discovered by its singular scream or call. It is known to the natives by the names of "Concona" and "Carpintero de la Cordilliera."

Colaptes Chilensis, Vig. Known to the natives by the name of "Pitigue," so called from its call or note. This bird is common in the woods of Acacia Cavenia near the Andes, and is also found in the valleys of the Andes in woody places. Molina says that this bird builds its nest in holes on the ground, which is an error, as I have found the nest in holes of trees like the rest of the genus. The eggs are white. Iris pale green or gray.

Vanellus Cayenensis, Steph. This is the "Queltregue" of the natives, and is one of the most common birds found on the plains near the Andes, also in other parts of the country. Food, worms, locusts, &c. The eggs are excellent eating, and resemble in colour and size those of the Lapwing of England. Iris purple.

Tinochorus D'Orbignyanus, Isid. Geof. St. Hilaire. This is the small Partridge of the Andes, and is called by the natives "Perdix Cordellierana." It comes down to the plains in severe winters. Generally found in pairs in the valleys near the summit of the Andes. The male shows the strongest attachment to his mate, and calls her by a melancholy tone or cry when separated. They are so tame that the natives kill them with stones, and so stupid that a stone may be thrown at them several times before they will rise. Iris brown.

Columba Boliviana, Auct. This little dove is found in small flocks in the valleys of the Andes, and, in the winter, visits the coast. It is known to the natives by the name of "Tortola Cordellierana." This is the smallest of the three species found in Chile. It makes a whistling noise with its wings when it rises from the ground. Iris brown.

Dafila urophasianus, Eyton. Iris brown. Found in valleys on the eastern side of the Andes.

Anas ———— ? Iris brown. Found inhabiting the rapid rivers of the Andes. This bird swims and dives against the rapidity of the mountain torrents in a manner truly astonishing. It seldom or never leaves the rivers of the Andes, and, like the Grebes, seldom makes use of its wings, although when disturbed it flies a short distance. Generally seen in pairs.

Mr. Gould made some observations on this collection, and particularly drew attention to the last species in the list, which Mr. Bridges places in the genus *Anas* with a note of doubt. Mr. Gould observed that this bird was unknown to ornithologists, and presented a most singular combination of characters. In many of its characters it approaches the Ducks (*Anatidæ*), but in others it evinced an affinity to the Mergansers (*Mergus*), especially in its long and stiff tail-feathers, and narrow and pointed beak. It differs, however, from either of the groups mentioned in having, in both sexes, a strong spur on the wing. Mr. Gould proposed for this new bird the name *Merganetta armata*.

Genus MERGANETTA.

Rostrum haud minùs longum quàm caput, rectum; ferè cylindraceum, ungue apicali distincto, incurvato, at minùs abruptè quàm in genere *Mergus* dicto. Mandibula superior lamelloso-dentata, vel tornio crasso carneo, intùs profundè serrato, instructa; naribus linearibus ferè centralibus.

Alæ mediocres primariis secundo et tertio longissimis; humeris calcare valido et acuto armatis.

Cauda, ut in *mergo*, rigida.

Tarsi aliquantò elongati, squamis hexagonis ad latera obtecti, et anticè scutellis. Digiti palmati, medio quàm tarsus paululùm longiore; halluce libero, altè posito, et paululùm lobato.

MERGANETTA ARMATA. *Mas: vertice nigrescenti-fusco, strigá angustá, albá cincto; hac, lineá faciali ejusdem colore, conjunctâ; infra hanc lineam strigá nigrá angustá, ab occipite super oculum ductá vittam nigram facialem efficiente, deindè per mediam gulam excurrente, et super pectus totum diffusá; capitis lateribus, sic et collo albis, hoc apud nucham strigis nigris longitudinalibus triplicitèr ornato, quarum centrali latá, reliquis angustis.*

Fœm.: vertice et dorso saturatè cœrulescenti-cinereis, sic et colli lateribus, his albescente minutè fasciatis; genis infra oculos, gulá, gutture, et corpore subtùs e rufo castaneis.

Male. Crown of the head blackish brown, surrounded by a narrow stripe of white which unites with another line of white running at right angles down the sides of the face; beneath this a narrow line of black which terminates in a point at the occiput, and running over the eye joins a broader band of the same colour down the sides of the face, is continued down the centre of the throat and spreads over the chest; sides of the head and neck white, interrupted at the back of the neck by three longitudinal stripes of black, the centre one being broad and the lateral ones narrow; feathers of the back and scapularies much lengthened, and conspicuously margined with white, the centres being in some blackish brown, in others greyish brown; wings deep grey, with a beautiful green speculum, bounded above and below with a narrow irregular band of white, produced by the tips of the greater wing-coverts and secondaries being tipped with that colour; primaries brown; rump and upper tail-coverts greyish brown, finely freckled with zigzag lines of white; centre of the abdomen dull light chestnut brown, with a blackish brown mark down the centre of each feather; flanks and under tail-coverts blackish brown; tail brown; irides brown; bill reddish brown; feet brown.

Female. Crown of the head, back and sides of the neck dark slate grey, the sides of the neck regularly barred with minute lines of greyish white; the elongated feathers of the back and scapularies margined with deep grey instead of white as in the male; lower part of the back deep slate grey; upper tail-coverts the same, crossed by numerous minute bars of white; wings grey, the coverts tipped with white; sides of the face below the eye, throat, and all the under surface rich reddish chestnut; tail brown.

Total length $18\frac{1}{2}$ inches; bill $1\frac{5}{8}$; wing 7; spur $\frac{5}{8}$; tail 5; tarsus $1\frac{3}{4}$; middle toe $2\frac{1}{8}$.

The female is rather less in all her admeasurements.

The male from which the description is taken had some of the tail-feathers white, but this would seem to have been produced by wearing and exposure, as they were all old feathers.

Mr. Waterhouse observed, that the Fox contained in Mr. Bridges's Collection he felt little doubt is the *Canis Azaræ*, Pr. Max., but it differed from the specimen figured in the 'Zoology of the Voyage of the Beagle,' in not having the black on the chin and angles of the mouth.

BOTANICAL SOCIETY OF EDINBURGH.

This Society held its eighth meeting for the season at the Botanic Gardens, Dr. Neill in the Chair.

Professor Graham communicated the agreeable intelligence, that the late Dr. Archibald Menzies had bequeathed to the Botanic Garden his interesting and valuable Herbarium, which was chiefly formed in the course of his voyages round the world with Vancouver and other circumnavigators. Dr. Menzies was the last survivor of Vancouver's companions, having lived to the age of eighty-eight. He was a native of Perthshire, and studied at this university, towards which he continued throughout life to entertain the warmest feelings of attachment.

The Chairman adverted, with deep regret, to the loss which the Society, in common with the botanical world, had sustained by the death of Mr. Falconer of Carlowrie, who was a most zealous and successful cultivator of the science, and who enjoyed, in a high degree, the esteem and respect of his friends.

The following papers were read:—

1. Notice of the Discovery of *Phascum alternifolium* (Brinck, &c.) in Dumfries-shire, and of *Arenaria verna* on the west coast of Scotland. Communicated by Mr. J. Cruickshank.—This *Phascum* is not the plant of Hooker, which is the *Archidium phascoides* of continental botanists. The present plant was formerly discovered in Britain, but long ago, and in very small quantity. It is, in the opinion of Mr. Wilson, a good species. *Arenaria verna* was found at Drumlanrig by Mr. Cruickshank. It is very rare, if existing at all, on the west coast of Scotland.

2. Notice on the occurrence of *Avena alpina* and *Saxifraga umbrosa* in Yorkshire, by Mr. J. Tatham, jun.—Mr. Tatham says, "*Avena alpina* grows here (Settle) at an elevation of between 600 and 800 feet above the sea. When growing in our elevated open pastures the plants are generally single, also on our limestone cliffs; but when in our natural woods, which are mostly hazel, it is found in large tufts, where you may get perhaps fifty specimens in the space of a few inches. I believe I could send from the same tuft specimens of *alpina* with the panicle quite as simple as any *pratensis*. I consider *Saxifraga umbrosa* as really wild here. It is met with in Hesletim Gill, which is a deep ravine at the foot of Pen-y-ghant, and Fountains Fell. There are only two houses in about three miles, and these not near the place. *Actæa spicata, Ribes petræum*, &c., grow along with it. The valley runs from west to east, and the *Saxifraga* is found only on the south side, which receives no sunshine except in summer. Some of the plants are inaccessible, the cliffs are so steep."

The impression of the meeting was that no specific distinction existed between the plant now shown as *Avena alpina* and *A. pratensis*, and the same remark may be applied to all other specimens of the former hitherto exhibited from British stations.

3. On three new Species of British Grasses of the genus *Poa*, by Richard Parnell, M.D., F.R.S.E.—The author stated that these

grasses were so unlike in general appearance to any of the other *Poæ*, and possessed such strong marks of specific distinction, that he considered them entitled to rank as distinct species. 1. *Poa sectipalea* (Parnell). This plant differs from *Poa pratensis*, the only species it can well be confounded with, in the branches of the panicle being stouter, more erect and rigid; the spikelets larger. Outer palea seven- or nine-ribbed, seven of the ribs being very distinctly marked; inner palea one-third shorter than the outer, and invariably divided to the very base, whereas in *Poa pratensis* the inner palea has never more nor less than five ribs, and the inner very little shorter than the outer, and always entire. Found growing in sandy situations between Crammond and Queensferry.—2. *Poa polynoda* (Parnell). This species differs from *Poa compressa* in the florets not being ribbed at the base; outer palea five-ribbed. Joints from eight to nine in number, the uppermost joint situated but a short distance from the panicle; whereas in *Poa compressa* the florets are very distinctly ribbed, suspending the calyx by their silky fibres. Outer palea three-ribbed. Joints seldom exceeding four in number.—3. *Poa nemoralis montana*, Koch. Inflorescence simple, panicled, occasionally racemed. Panicle erect, narrow and slender; the branches erect, long and slender, bearing few spikelets. Spikelets lanceolate-ovate, of two or three awnless florets. Calyx of two unequal, acute glumes, three-ribbed. Florets not in the slightest degree webbed. Outer palea five-ribbed, the dorsal and marginal ribs slightly hairy. The whole plant is of a glaucous hue. This grass was first obtained by Dr. Greville, who, in the year 1833, gathered several specimens on Ben Lawers; since then it has been found in many parts of the Highlands, but has hitherto been considered as a glaucous variety of *P. nemoralis*.

These grasses are figured in Dr. Parnell's work on the Scottish Grasses, now in the press, in which he has given 130 figures, with minute descriptions.

ROYAL IRISH ACADEMY.

Jan. 25, 1841.—His Grace the Archbishop of Dublin communicated some observations "On the Leafing of Plants."

It is well known that there is a diversity in the times of leafing and shedding in individual trees of the same species; *e. g.* hawthorn, sycamore, horse-chestnut, beech, &c., sometimes as much as a fortnight; and the earliest in leaf are also the earliest shed, the same individuals keeping their time every year. Hence the question, whether this diversity arises from the "separable accidents" of soil, situation, &c., or whether from "inseparable accidents," which constitute what physiologists call *varieties*?

An experiment was tried by grafting an early hawthorn on a late, and *vice versâ*. The scions kept their times (about a fortnight's difference) as if on their own stocks, thus proving that it was a case of "*seedling variety*."

Many other such varieties are known, not only of apples, peaches, &c., but of wild trees also, differing in shape of leaf, form of growth, colour and size of fruit, &c., and also *time of ripening*. It was therefore to be expected that there should be the like in respect of times of leafing.

This may throw some light on the question respecting "*acclimating*." It may be, that species may be brought to bear climates originally ill-suited,—not by any especial virtue in the seeds *ripened in any particular climate*, but—by multiplying seedlings, a few of which, out of multitudes, may have qualities suited to this or that country, *e.g.* some to cold, some to drought, some to wet, &c.

In some cases, a plant's beginning to vegetate later may secure it from spring frosts, which would destroy a precocious variety; in others, earlier flowering may enable a tree to ripen fruit in a climate in which a later would be useless, &c.

Further, the experiment shows that the common opinion respecting the commencement of spring vegetation,—the rise of the sap from the roots, through the trunk and branches to the twigs,—is groundless; since a scion of an early variety, on a late stock, will be in leaf while the stock is torpid.

BOTANICAL SOCIETY OF LONDON.

April 18, 1842.—Dr. Willshire in the Chair.

Mr. Edward Doubleday exhibited a *Primula* found at Bardfield, Essex, and stated that a few years ago his brother, Mr. Henry Doubleday, observed that the Oxlips growing near Bardfield were strikingly different from those found in the vicinity of Epping, where the Oxlip is not common; and that further observation had induced him to believe that the Bardfield plant was a distinct species, an opinion in which he (Mr. E. D.) was disposed to concur. Mr. Doubleday next referred to an article in the 'Gardener's Chronicle,' and pointed out the resemblance of the Bardfield plant to the one there alluded to. He expressed his opinion very decidedly that there were in England three distinct species of *Primula*, known by the names of Primrose, Cowslip or Pagel, and Oxlip, but that the Oxlip, commonly so called, is nothing more than a hybrid between the Primrose and Cowslip. This hybrid is extensively distributed over the country, especially in localities where the Primrose and Cowslip abound: it constantly exhibits a tendency to revert to the Primrose by throwing up single flowers of precisely the Primrose character, as well as others possessing characters of its other parent, the Oxlip.

As a natural consequence, such a hybrid would reproduce at times both the parent species, a fact Mr. Doubleday believes to be fully proved.

The Bardfield plant, which Mr. Doubleday considers the true Oxlip, differs from the hybrid in the form of the calyx, in its drooping umbel, and in its leaves dying off in autumn: he has examined thousands of plants at and near Bardfield, and never observed a single instance of a solitary flower being thrown up as in the hybrid. The Primrose does not occur for some miles round Bardfield, though the Cowslip is abundant; therefore hybridization cannot well take place in that locality. The plant under cultivation does not change its character. Should it prove a distinct species, Mr. Doubleday claimed for his brother the credit of first detecting the distinction.

May 6.—John Edward Gray, Esq., F.R.S., &c., President, in the Chair.

The following specimens were exhibited and presented to the Society:—*Leskea pulvinata* (Wahl.), on willows by the Ouse near York, and *Dicranum spurium* (Hedwig), Stockton Forest, collected by Mr. R. Spence. *Desmidium mucosum* and *D. Swartzii*, collected near Penzance in December last by Mr. J. Ralfs. Mr. W. Gourlie, jun. presented the following:—*Jungermannia stellulifera* (Taylor), collected at Critch, Derbyshire, by Mr. W. Wilson. *Gymnostomum Hornschuchianum* (Arnott), collected at Cromaglown in July 1840, and first discovered by Dr. Taylor. *Jungermannia voluta* (Taylor), found at Gortagonee in March 1841 by Dr. Taylor. Specimens of *Jungermannia Lyoni* (Taylor), collected at Dunoon, Argyleshire, by Mr. J. G. Lyon. Mr. T. Sansom exhibited specimens of the following mosses, collected by the Rev. C. A. Johns, F.L.S.:—*Bryum Tozeri* (Grev.), Swanscomb, Kent. *Hypnum catenulatum* (Schwæg.), from Belsham, Kent. *Tetraphis pellucida* (Hedw.), Abbey-wood, Erith, Kent.

A paper was read from Dr. Spencer Thomson "On the Anatomy and Physiology of the seed of *Phaseolus vulgaris*." The paper was accompanied by drawings.

May 20.—J. E. Gray, Esq., F.R.S., &c., President, in the Chair.

The following donations were announced. A specimen of Sugar-cane from Madeira, by Mr. James Halley. *Bupleurum tenuissimum*, found at Highgate, by Mr. W. Mitten. A paper was read from Edwin Lees, Esq., F.L.S., &c., "On the Flora of the Malvern Hills, Part 3, being a Sketch of the Cryptogamic Vegetation indigenous to the Chain."

Notwithstanding the limited extent of this narrow chain of hills, scarcely exceeding nine miles in length, and only rising to 1500 feet in altitude, yet they offer almost every variety of aspect and condition favourable to the development of cryptogamic vegetation. In fact, the Malvern Hills, when considered only as a ridge without reference to the country around them, are far more remarkable for their acotyledonous than their vascular productions.

Commencing with the northern termination of the hills in Cowleigh Park, several miniature syenitic spurs here appear abrupt and rocky, yet prettily shaded with wood amidst deep glens and shaggy defiles, overtopped by lateral steeps of limestone, amidst whose gullies, streamlets are there gushing with musical intonation. From the "Happy Valley" a verdant park-like glacis leads the wanderer up among the exposed treeless turf, and rugged, jutting-out and lichened rocks of the End and North Hills, those of the latter being more precipitous and remarkable than those of any other hill of the chain, and boasting a great number of lapideous lichens. Between this hill and the Worcestershire Beacon a deep and winding valley extends, watered by bubbling streamlets, and abutted by moist dripping rocks on the southern side, where several species of *Jungermanniæ* shelter; but it must be observed that, excepting in this place and in the "Gullet," as it is termed, of the Holly Bush Hill, almost all the other Malvern rocks are without exception dry and bleached by the wind and sun. At the western base of the Worcestershire Beacon, one of the few bogs that yet remain about the hills, occurs *Aspidium Oreopteris*, marking this and the other boggy places by the profusion in which it covers the margin of the black soil. A mile further south at the "Wych," the syenite and limestone are in contact, and the latter having been extensively quarried, numerous abandoned excavations occur, in many instances embowered with wood, and offering favourite habitats for many mosses unable to fructify on the sunburnt sides of the hills. These limestone rocks also offer an instructive example of the lichens more particularly affecting limestone when compared with the loftier and more exposed syenite. Mr. Lees considered that nearly one-half of the plants occupying the Malvern Hills are Cryptogamic, and the following synopsis will show this to be not an unreasonable supposition, especially as the census the author had taken is not to be considered a perfect one, embracing however all the species Mr. Lees had been enabled to identify after an attentive examination of five years and upwards.

Enumeration.	Species.
Ferns and Equisetaceæ	25
Mosses	121
Jungermanniæ	23
Other Hepaticæ, Characeæ, &c.	15
Lichens	223
Fungi	305
Total	712

The paper was accompanied by specimens, many of which were exhibited.

June 3.—J. E. Gray, Esq., F.R.S., &c., President, in the Chair.

Mr. J. A. Brewer exhibited living specimens of *Ophrys muscifera, Aceras anthropophora, Orchis ustulata, Paris quadrifolia*, and other interesting plants from Reigate, Surrey.

Mr. M. J. F. Sidney presented a specimen of *Lycopodium lepidophyllum* from South America.

The continuation of Mr. Edwin Lees's paper "On the Flora of the Malvern Hills, Part 3, being a Sketch of the Cryptogamic Vegetation indigenous to the Chain," was read.

Hepaticæ.—Among the *Hepaticæ* occur *Anthoceros punctatus* and *Targionia hypophylla*, the latter at the foot of moist rocks on the Worcestershire Beacon; while there are three species of *Marchantia, polymorpha, conica,* and *hemispherica.*

Jungermanniæ :—asplenoides, ventricosa, bicuspidata, connivens, pusilla, resupinata, albicans, obtusifolia ?, complanata, scalaris, viticulosa, Trichomanis, bidentata, platyphylla, ciliaris, tomentella, Mackaii, serpyllifolia, dilatata, Tamarisci, pinguis, epiphylla, furcata.

Lichens.—Mr. Lees had observed 223 species; most of the specimens accompanied the paper, and were exhibited.

Fungi.—The moist grassy declivities of the hills are in autumn peculiarly adapted to the growth of the Agaric tribe; and here followed a list of those observed.

On the whole, the flora of Malvern may be considered as most remarkable and abundant rather in its *Cryptogamous* than *Phanerogamous* productions. After an attentive examination of the hills and the district around them for some years, Mr. Lees had been enabled to determine

Dicotyledonous plants	553
Monocotyledonous plants	173
	726

The Cryptogamous census altogether amounts to 712, and with a little more industry and research among *mycological* productions Mr. Lees thought it might be considerably increased, while few he thought could be added to the Phanerogamous list.

Altogether, the entire number of plants Mr. Lees had determined and appropriated as belonging to the flora of the Malvern Hills amount to 1438.

The President announced that Mr. Arthur Henfrey had been appointed Curator, and that the Herbarium might be inspected every Monday, Wednesday and Friday from 10 to 4, and on Friday evenings from 7 to 10.

MISCELLANEOUS.

A new species of Tapering-tailed Phascogale *in the Collection of the British Museum.* By J. E. Gray, F.R.S., &c.

This species agrees in size and appearance with *Phascogale minima*, but differs from it in having long white tips to the dark brown and black hairs, in the tail being short, conical, tapering, and covered with elongated yellowish-tipt hairs, and especially in its having a terminal pencil of black-tipt hairs, for which reasons I am induced to call it *Phascogale apicalis*.

Unlike *Phascogale minima*,—*P. affinis* of Van Diemen's Land, *P. leucogaster* of Western Australia, and *P. rufogaster* of South Australia,—the present species has only two compressed false grinders in the upper jaw, but this may depend on the youth of the specimen, which is a female with a large well-developed abdominal pouch. The specimen here described was procured from Mr. Brandt of Hamburgh, who purchased it during his late visit to London. Its precise habitat is not known, but it is doubtless from Australasia.

STERNA ARCTICA.

I perceive that in the last number of the 'Annals and Mag. of Nat. Hist.' Mr. Thomas Austin is disposed to question the identity of the flocks of Terns seen on the 7th of May with the *Sterna arctica*. Whether the "two or three hundred" that were killed in the harbour of Bristol on that day were the *S. arctica* or the *S. hirundo*, I have no means of deciding, and it is very possible that Mr. Austin may be more correct in his specific determinations than the editor of the Bristol Mirror; but with regard to the numerous specimens obtained in Worcestershire, I can only say that I believe them *all* to have been *S. arctica*. I have myself examined a considerable number of individuals of the latter species procured at the above date,